

DWR NEWS | *People*

SPRING 2004



Developing Revolutionary

Agricultural Water Computer Models

(Left to Right) DWR's **Morteza Orang** along with UC Davis Scientist Dr. **Richard Snyder** stand in front of a deciduous orchard near Davis to discuss irrigation scheduling strategies.



It Feels Like Home

California has a fabled history of water conflict. Fortunately, it also boasts a rich legacy of visionary leadership.

Today's water managers have developed great planning sophistication, operational flexibility and innovative techniques. DWR and, indeed, the entire California water community now functions with more skill, ingenuity, tools, unity, public outreach and input, and diplomatic skill than historically was the norm.

My chief goal as DWR Director is to promote wise management of California's water resources to contribute to a vital economy, healthy environment and high quality of life. Many DWR programs and projects contribute to these things. This includes the State Water Project, a premier water storage and transfer system that has consistently been operated with a concern for environmental impacts.

But the SWP infrastructure is aging, and post-9/11 security concerns have brought challenges that were unknown only a few decades ago. As Director, I will work to modernize the SWP, its operational flexibility and its management. We will continue to assure its reliability as a vital water source benefiting California's people, agriculture, industry, environment and fish and wildlife.

Other important tasks include completing our update of the California

Water Plan to guide water development and management; obtaining, at reasonable cost, a new license from the Federal Energy Regulatory Commission to operate our Oroville Facilities, and fulfilling our role in the legislatively mandated effort to restore the ecosystem of the Salton Sea.

So many tasks, projects, programs and duties deserve to be listed -- including conservation, dam safety, desalination, flood management, drought preparedness, groundwater management, power contract management, levee restoration and integrity, water quality, water storage, water transfers, water use efficiency, and myriad Delta projects. But let's save a few for future discussions.

I'm proud to be part of the DWR team. I greatly respect the proven expertise, skill and dedication of DWR staff members. I'm appreciative of your pride in the Department's history, achievements and productivity.

Together, we have a new opportunity to accomplish great things in protecting and managing California's water resources for the benefit of our State's people, environment and economy.

Lester A. Snow
Director

Though I've been with DWR only a short time, I feel right at home, as though I've been here for years instead of weeks. Being appointed Director by Governor Schwarzenegger feels more like coming home than moving to a new job.

As many of you know, from 1995 through 1999 I served as CALFED's first Director, working on the 11th floor of the Resources Building. In that job, I had the privilege of working with many DWR individuals and programs. I quickly learned to rely on the professionalism, integrity, and dedication of DWR employees.

Upon leaving CALFED, I became mid-Pacific Regional Director for the Bureau of Reclamation and continued to work with DWR staff on Delta issues.

Now, as we face program and budget challenges together, I look forward to renewing old relationships, building new ones, and tapping DWR's outstanding talent pool to keep us ahead of the curve.



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DEVELOPING REVOLUTIONARY AGRICULTURAL WATER COMPUTER MODELS

By Don Strickland

Page 4: (Left to Right) Dr. Richard Snyder of UC Davis and Morteza Orang of the Division of Planning and Local Assistance review the eddy covariance equipment for measuring energy balance, evapotranspiration and carbon dioxide fluxes. The equipment was set up at UC Davis by participants of the Ameriflux network to compare measurement techniques. Richard and Morteza also use similar equipment to determine crop coefficients

(Above) Dr. Richard Snyder looks at the UC Davis Lysimeter, which is a device used to measure evapotranspiration by measuring gains and losses of water core.

Photos by Steve Payer & Don Strickland

After three and a half years of work, **Morteza Orang**, an Associate Land and Water Use Scientist with DWR's Division of Planning and Local Assistance, Statewide Water Planning Branch, and Dr. **Richard Snyder**, a University of California at Davis scientist, have produced two computer models that promise to revolutionize the way farmers and water planners estimate crop irrigation needs.

"The amazing aspect of these programs is that they take monthly averages of various weather parameters needed to estimate evapotranspiration, then convert them to reliable daily estimates," said Morteza. "Until the Consumptive Use Program (CUP) and Simulation of Evapotranspiration of Applied Water (SIMETAW), no one has been able to use monthly weather data with the latest evapotranspiration formulas that require daily calculations."

"On a scale of one to ten, these programs are tens," said Dr. Snyder. "They are very significant for planning purposes in figuring out how much water we need in California and around the world. Both CUP and SIMETAW are big advances because it's a pretty complicated process to estimate the evapotranspiration of crops. You have to consider the reference evapotranspiration, crop coefficients, rainfall effects...and all this is put together in the SIMETAW and the CUP programs."

The Creators' Background

Dr. Snyder, a biometeorologist, is among the country's top researchers in the area of evapotranspiration, the process by which water is transpired by plant leaves and evaporated from the surrounding soil. Reliable data on evapotranspiration is a key element of DWR's California Land and Water Use database, a primary source of water use information for the "California Water Plan Update," State Water Project planning and operations studies, and evaluation of proposed water transfers.

Originally from Iran, Morteza completed undergraduate work in engineering at the University of Wisconsin. Graduate studies followed at UC Davis with a concentration on groundwater hydrology. While at UCD, Morteza worked with Dr. Snyder as a postgraduate researcher on several projects that developed new methods for estimating evapotranspiration. A DWR contract with UCD provided an

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Developing Revolutionary Agricultural Water Computer Models



Morteza Orang of DPLA's Statewide Planning Branch reviews information for the *Simulation of Evapotranspiration of Applied Water* model program.

opportunity for Morteza to work once again with Dr. Snyder on the design and development of the CUP and SIMETAW computer models.

In 1992, Morteza joined DWR as a Graduate Student Assistant, developing equations for estimating monthly evapotranspiration in the Delta. Before joining DWR's Statewide Water Planning Branch full time in 1997, he worked as a Postgraduate Researcher in the Departments of Biological and Agricultural Engineering and Hydrologic Science at UCD, where he conducted studies in groundwater hydrology.

Morteza built the CUP model in what he calls "a user-friendly Excel application program." SIMETAW is written in Borland C++. Development of the models comes after many years of computer studies.

The Models' Purpose

While the computer models were designed primarily to estimate agricultural irrigation needs, Morteza sees value in other areas. "Take California's wine grape industry," said Morteza. "SIMETAW could help in frost protection. It could help us to see what the probabilities are that we could have a temperature below freezing...which in turn could help the farmers make investment decisions to protect their grapes."

CUP and SIMETAW are finished programs. But that doesn't mean work on them has stopped. "We'll be improving them

forever," said Dr. Snyder. "But at this point, they're about as good as anything you can find. We've improved the crop coefficients in California. We used to use the same values throughout the state for tree crops."

"Since we account for rainfall effects, we know that the crop coefficients are going to be higher in the Sacramento Valley than in the San Joaquin Valley because there's more frequent rainfall," said Dr. Snyder. "We never did that in past estimates, so we're making improvements all the time and, as we develop new and better crop coefficients, we'll make adjustments."

Dr. Snyder will use CUP in his teaching program at UCD. According to Dr. Snyder, CUP is very useful as a teaching tool because students can see everything that's happening.

"With SIMETAW, there's a black box. You put information in one end and get information out the other end, but you can't see what took place," said Dr. Snyder.

"Although still new on the market, response to the computer models has been strong. We've gotten more than 100 requests from private companies," said Morteza. "Geologists, environmental companies, engineers, researchers, universities. They've called from Texas, Colorado, Utah, Arizona, Indiana, and California. We've also been contacted by units of the United Nations in Italy, Turkey, Egypt, and India."

Interest in the programs has been enhanced through presentations at the following events: 2002 U.S. Committee on Irrigation and Drainage/Environmental and Water Resources Institute of ASCE Conference in San Luis Obispo; Sixth International Conference on Civil Engineering at Isfahan University of Technology in Isfahan, Iran on May 5-7, 2003; Fourth International Symposium on Irrigation of Horticultural Crops at the University of California, Davis on September 1-5, 2003; 24th Annual International Irrigation Show in San Diego on November 18-20, 2003.

Morteza said he and Dr. Snyder also plan workshops to help farmers and others use the computer programs.

For more information about SIMETAW and CUP, visit the Web site at:

<http://www.waterplan.water.ca.gov/landwateruse/wateruse/Ag/wuagricultural.htm>

A Wealth of Water Information

By Margarita Macias

DWR's California Data Exchange Center staff always work as a team to provide CDEC information. (Left to Right) Standing: CDEC Supervisor David Parker, Mohsen Nasser, Ray Welch, Paul Kawata. Sitting: Bing Zhang and Anna Fong.

Photos by Norm Hughes

Since 1984, DWR's California Data Exchange Center (CDEC) has provided the most reliable source of water supply and flood operations information for the State of California.

CDEC, part of the Division of Flood Management's Hydrology and Flood Operations Office, installs, maintains,

and operates a variety of hydrologic data collection networks, including automatic snow reporting gages for the Cooperative Snow Surveys Program and precipitation and river stage sensors for flood forecasting.

"In addition to providing a central location for storing and processing real-



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time hydrologic information gathered by cooperators throughout the State, CDEC's information is available for review by the cooperators, public, private agencies, and news media," said CDEC's Supervisor **David Parker**.

The variety of resources available through CDEC include current river conditions, snow pack status, river stages along with flows, reservoir data along with reports, satellite images, station information, data query tools, precipitation along with snowfall and snowmelt, water supply, weather forecasts, and river and tide forecasts. One hundred ninety agencies, including State, federal, local, and public utilities, provide data to CDEC through sensors throughout California at remote data stations, such as snow sensor stations, fire weather stations, and reservoir operations stations; and information through direct file exchange over the Internet or dedicated networks.

From students in Northern California to engineers in China, CDEC's information is widely used worldwide.

The success of CDEC's information comes from the total team effort by CDEC's staff, which includes **David Parker, Paul Kawata, Ray Welch, Bing Zhang, Anna Fong,** and **Mohsen Nasser**.

"Our team works closely together to make sure the systems, and applications are available and running efficiently in order for users to obtain what is needed," said David.



*CDEC's Webmaster **Anna Fong** along with Associate Program Analyst **Bing Zhang** make sure CDEC's computer equipment is working properly.*

The History of CDEC

Although manual measurements of the Sacramento River began as early as 1932, gages were not automated and telemetry controlled until 1973. By 1981, information was made available for outside use. After three years, CDEC became a 24-hour service allowing more than 70 users to "log on" to the system at one time.

"When CDEC began, information had to be gathered from about five different computers each morning," said Senior Programmer Analyst Supervisor David Parker, who joined DWR's Flood

Management Division as a Mechanical Engineering Student in 1980 and later programmed the mainframe of CDEC as a Programmer I. With the 1986 floods, CDEC's popularity increased and a larger capacity minicomputer called MV 10,000 was purchased.

In 1994, CDEC made a major change from MV 15,000 Data General computers to Hewlett Packard Unix-based servers. A Web site for public access was created in 1995. This system change allowed anyone with access to the Web to view CDEC information.

"It was great to be on the leading edge of the new technology," said

Ray Welch, Staff Programmer Analyst who has worked for CDEC for more than 19 years. "CDEC was one of the first in DWR to have dynamic Web pages that allowed access to a real-time hydrologic and weather relational database."

Use of Information

With the modernization of software and hardware, there was also a change in visits to the Web site. In 1995, the site had 12,000 estimated page views in one water year. For the entire 2003 water year, CDEC had 12 million page views.

"From the general public to water officials, CDEC has provided very helpful information in many situations, such as high water emergency conditions," said David. "A person, who lived in a mobile home park, was very thankful for having access to CDEC when the Sacramento River was rising. By viewing CDEC's Web site, she knew when she needed to leave her mobile home."

Since CDEC was primarily created to provide early flood warning, the Web site is heavily used during high water. In 1997, the Web site had 35,000 hits per week. In 1998, the Web site approached 600,000 hits per week. After additional system enhancements, the numbers reached over 1.3 million per week for the current water year.

CDEC has also expanded to assist with planning water releases, forecasting water supplies, monitoring water quality in the Sacramento-San Joaquin Delta, managing watersheds, providing Delta compliance, and performing other hydrologically related functions.

Maintenance of Information

From 300 sensors in 1984 to 9,000 sensors in 2003, CDEC's source of information has expanded greatly. These sensors, which collect information and send it to DWR's satellite or microwave receivers, are maintained by federal, State, local, and utility agencies.

"Although the information is not all from DWR's sensors, CDEC staff is still the focal point," said David. "Since CDEC collects the various information,

the CDEC staff responds to all inquiries about the data from the various sensors."

Generally there are multiple sensors per remote station. More than 50 stations owned by DWR are maintained by DWR's District offices. Along with other DWR field technicians, CDEC's Associate Electrical Engineer Mohsen Nasseri assists in inspecting and repairing these remote stations on an annual basis. Since some of these stations are in very remote locations, Mohsen has traveled by horse and skis to complete his inspections.

Making site inspections and troubleshooting is not new to Mohsen, who worked for Caltrans and the Department of Forestry and Fire Protection before joining DWR in 2000.



(Left to Right) Ray Welch and David Parker have worked together on CDEC for the last 19 years.

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Staff Programmer Analyst **Paul Kawata**, who joined DWR in 1995, previously worked as an Electronic Engineer at McClellan Air Force Base. He ensures that the microwave and satellite data collection systems are functional around the clock by developing software applications to make these systems more manageable and efficient. Paul also modifies the satellite data collection system and CDEC databases whenever a site is added or an existing one is changed.

Coordinating with Others

Ray coordinates data exchange between the National Weather Service, U.S. Forest Service, Bureau of Reclamation, U.S. Army Corps of Engineers, as well as other federal agencies, public utilities, and private corporations. He also develops software applications that support this exchange and the dissemination of data.

"Since I've always been fascinated by all types of weather, including storms, I really enjoy helping provide all of this important weather information to others," said Ray.

From Eureka to Fresno, Ray has also given seminars on CDEC for various agencies.

Making it Work Well

To make sure all of CDEC's information is available and operating properly, Associate Program Analyst **Bing Zhang** and Staff Information

Systems Analyst **Anna Fong** make sure the system is running efficiently. As CDEC's Webmaster, Anna ensures data retrieval and site navigation is functioning properly. She also develops Web software applications that support data retrieval and summarize various information. Bing takes care of the computer systems behind the scenes and assists in Web application development.

Bing, who joined DWR in 2001, previously worked for Lockheed Martin as a LAN administrator. Anna, who joined DWR in 1989 as a Student Assistant and CDEC in 1997 as an Assistant Information Systems Analyst, created one of DWR's first Web sites. In 1998, Anna programmed the total redesign of CDEC's Web site.

"As part of the redesign, I added additional navigation and data retrieval tools," said Anna. "The original format would not allow a user to click on a link and then return to the previous page without having to click through all of the previous pages."

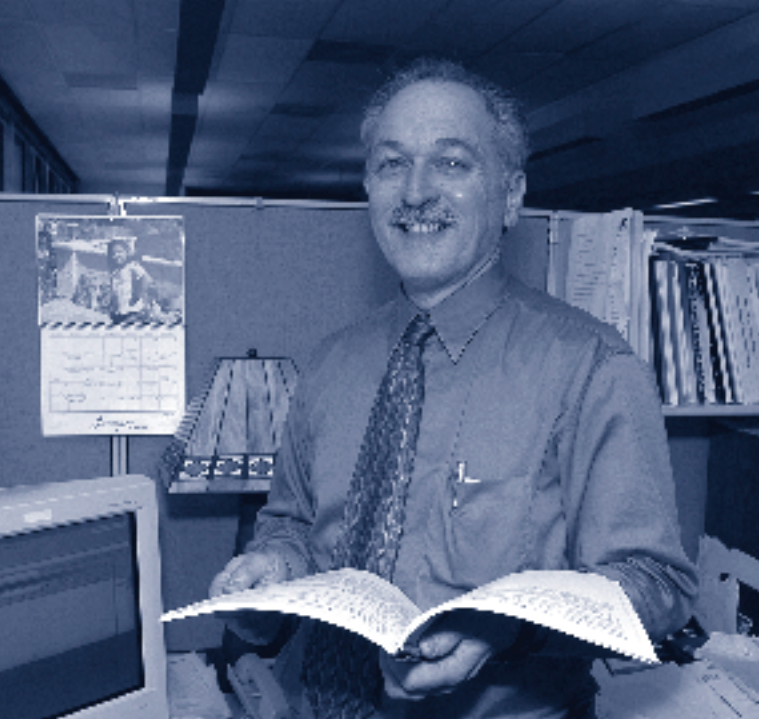
Future Plans

With additional stations and newer software and hardware, CDEC is increasing its capability each day.

"CDEC has changed significantly in 20 years," said David. "Future projects include automation of data and product alarms, and development of decision support tools for reservoir operations."



(Left to Right) Mohsen Nasseri and Paul Kawata work together to test and repair microwave and satellite data collection systems, which are used to provide information for CDEC.



Land and Water Use Program Manager Dave Todd presents the "Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001" created by Office of Water Use Efficiency staff to assist counties and cities in implementing these new bills.

Photo by Steve Payer

Show me the Legislation

By Annie Parker

As California's population continues to expand and the current housing shortage grows, developers are looking to locate large housing projects in less urban, less crowded areas of the State, preferably further out past the widening circles of suburban neighborhoods. Southern California climates and Sierra Nevada foothills are especially popular areas for expansion.

But in California, where water is a precious commodity, water supply for a fledgling community must be taken into consideration. Senate Bill 610, authored by former Senator **Jim Costa**, which requires a Water Supply Assessment, and SB 221, authored by Senator **Shelia Kuehl**, which requires a written Verification of Water Supply, are also known as the "Show me the Water" bills. They require that any development planned with more than 500 houses must demonstrate an "adequate" water supply for the next 20 years.

"The assessment/verification must address whether the projected supply—based on normal, single dry, and multiple dry years—will meet the demand projected for the

project plus existing and planned future use, including agricultural and manufacturing uses," said **Dave Todd**, Land and Water Use Program Manager for DWR's Office of Water Use Efficiency.

The Urban Water Management Planning Act is identified by both SB 610 and SB 221 as a foundational document and source of information for the assessment/verification. If an UWMP is not submitted to DWR, the urban water supplier is not eligible for certain funding administered by the Department until the plan is completed.

DWR does not review Water Supply Assessments and Written Verifications of Water Supply. Prior to adoption, citizens have an opportunity at the local level (city, county or water supplier) to comment, request information, question reliability, and examine the adequacy of a Water Supply Assessment and/or Verification. The lead agency must include the Assessment in the Negative Declaration or Draft Environmental Impact Report prepared for the project. If it is determined that sufficient water is not available, the lead agency may still approve the project,

but must include that determination, based on the entire record, in the findings for the project. It must include substantial evidence in the record to support its approval of the project. Any challenge to a verification must be initiated within 90 days.

"SB 221 and SB 610 foster communication between land-use agencies and water supply planners, resulting in more coordinated planning activities. This coordination encourages innovative solutions to address water supply challenges, including implementing comprehensive water conservation and water recycling programs," said **Katie Shulte Joung** of the California Urban Water Conservation Council.

To assist counties and cities in complying with SB 221 and SB 610, the Office of Water Use Efficiency has compiled the "Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001."

"This legislation should ensure that future developments occur only when a reliable supply of water is available," said **Larry Farwell**, a private consultant who assisted the Office of Water Use Efficiency in creating the guidebook.

Some developers have complained the new laws are further restrictions on building homes to meet the needs of an ever-growing population.

"SB 610 and SB 221 were adopted to advance water supply planning efforts, not to inhibit development," said Dave. "They are designed to improve the link between information on water supply availability and certain land use decisions made by cities and counties."

The California Urban Water Conservation Council and the Department of Water Resources are sponsoring workshops in 2004 on the Implementation of SB 221 and SB 610. Workshops are scheduled from April to May in San Diego, Santa Rosa, Sacramento, San Jose, and Fountain Valley. If you are interested in attending, contact Dave Todd at (916) 651-7027.



DWR-Designed

Fish Barrier Dam *will protect* Golden Trout in Sierra

By Pete Weisser

*Photos by Division
of Engineering staff*

W

orkers high in the remote southern Sierra

Nevada completed construction of a new DWR-designed Schaeffer Fish Barrier Dam on the South Fork of the Kern River. The dam gives California's official State Fish a better chance to survive.

At an 8,000-foot altitude site on the edge of the Golden Trout Wilderness, 25 miles south of Mount Whitney, workers replaced a deteriorating gabion rock structure with a new dam, designed to protect California Golden Trout from predation or breeding with non-native brown and rainbow trout. The California Golden Trout was designated California's State Fish in 1947.

*(Left to Right) Of the Division of Engineering, Mechanical Construction Supervisor **Ron Wermuth**, Senior Engineer **Bill Forsythe**, and Supervising Engineer **Jeanne Schallberger** inspect the construction of Schaeffer Fish Barrier.*

In the 1970s, the Department of Fish and Game and Inyo National Forest initiated a fish barrier program to prevent upstream movement of the browns and rainbows. The fish barrier is intended to safeguard the high-altitude Golden

Trout from planted browns and rainbows, which thrive in lower regions of the Kern River's South Fork.





The approximately 15 foot tall barrier dam on the South Fork of the Kern River was completed in October.

During the barrier's construction, a cyclopean concrete apron was built.



*(Above) During a construction inspection, **Ron Wermuth** and **Dyanna Laing** of Engineering watch as formwork is being removed.*

(Bottom) Concrete sacks stockpiled after being flown in by helicopter. Due to the remote location of the dam, construction materials had to be flown in by helicopter rather than being trucked into the site.

DFG proposed the dam as part of its effort to protect native fish species, especially goldens. This is a cooperative project with the Sequoia and Inyo National Forests, the U.S. Fish and Wildlife Service, and several angling organizations. DFG funded the project and contracted with the Department of Water Resources for design and construction.

DWR designed the new fish barrier dam and provided construction inspection and technical assistance on the project, according to **Bill Forsythe**, a Senior Engineer in DWR's Division of Engineering.

The low concrete structure spans the 200-foot stream channel, causing the river to cascade over the dam, thereby creating a barrier to upstream fish migration.

DWR awarded a \$1.3 million contract on May 30, 2002 to the successful bidder, Whitaker Contractors, Inc. of Santa Margarita. Construction began in July 2002 but was suspended due to the McNally wildfire, which engulfed the Sequoia National Forest area with flames and smoke during the late summer

of 2002. The contractor remobilized in July 2003 and completed the barrier construction in late October 2003.

To avoid ecological impacts on Inyo National Forest land at and around the site, construction materials were flown to the high-altitude construction site by helicopter.

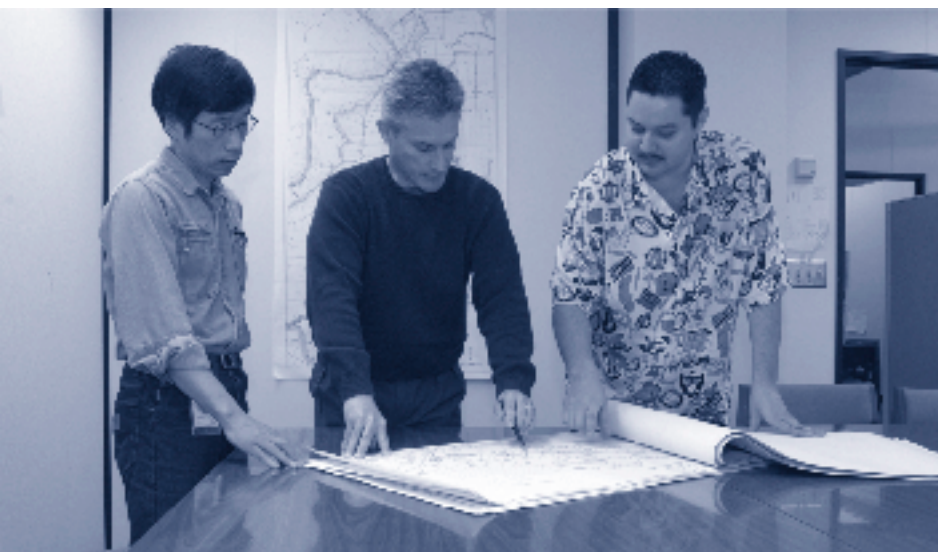
According to **George Heise**, a DFG Senior Hydraulic Engineer, this is the newest of several barrier dams to be constructed in or around the Golden Trout Wilderness for protection of the California Golden Trout.



During construction, concrete formwork was placed for the stairway and viewing area to Castaic Lake.

Castaic Lake RECREATION AREA PROJECT

Photos by Norm Hughes



(Left to Right) Architect C.Y. Kan reviews Castaic Lake Recreation area's architectural plans with Project Manager Gordon Enas and Juan Escobar of his staff.

The first major improvements to facilities at the East Ramp of Castaic Lake Recreation Area in more than 20 years were completed in March 2004.

The project, funded by the Department of Boating and Waterways, enlarged a concessionaire building, a patio, and a viewing area. It also provided a new access road, entrance kiosks, restrooms, a playground, and picnic area with

barbecue grills building in addition to upgrades to the area's water, sewer, and electrical systems.

"This was one of my most interesting projects because of the wide variety of design issues," said **Gordon Enas**, Project Manager of the Castaic Lake Recreation Area project who has worked for DWR since 1987. Gordon has worked on the California Aqueduct's Mile 55 Repair, Vaquero Recreation Area, and Thermalito-Afterbay and Forebay Recreation Area. "On any retrofit, you never know what you'll find until you uncover things."

The design of the \$2.3 million project began in 1999. Construction, which was contracted to Sea Pac Engineering, Incorporated began in 2002.

DWR's Division of Engineering designers included **Tru Nguyen**, **Roger Lee** (now with Flood Management), **Nader Noori** (now with Operations and Maintenance), and **Juan Escobar**. The Architectural staff included **C.Y. Kan**, **Mia Marvelli**, and **Lino Hernandez**, who designed the new buildings. The construction was inspected by Engineering's Construction Office's Construction Management Supervisor **Rob Fill** and his staff of **Jim Brantley** and **Dave Sale**.

"The completion of this project made it Castaic's second refurbishment since its construction in 1967," said Gordon.



(Left to Right) Standing next to the new entry kiosk at Castaic Lake are Engineering's Chief Inspector **Dave Sale**, Sea Pac Engineering's Superintendent **William Powelson**, and Construction Management Supervisor **Rob Fill**. (Not in photo: Supervising Construction Engineer **Jim Brantley**.)

The new picnic area includes several tables with benches along with barbecue grills.



A playground was also added to Castaic Lake Recreation area.



HYATT POWERPLANT

Refurbishment Nears Halfway Mark

By Don Strickland

*Above photo:
(Left to Right) Journeyman Machinist
Clint Wells, Field Supervisor **Harry
Railing**, and Project Manager **Tom
McDonald**, all from VA Tech Hydro
uncrate a runner at Oroville's Hyatt
Powerplant.*

*Photos by
Division of Engineering staff*

The five-year, \$30 million refurbishment project at the Oroville Facilities Hyatt Powerplant is nearing the halfway point. Refurbishment on the plant's three generating units was completed in April. Fabrication is under way on the first of three reversible pump-turbines with work due to commence at Hyatt Powerplant in October 2004.

Refurbishment of turbine units 1, 3, and 5 was done through a turnkey contract with VA Tech Hydro from Linz, Austria. Work included designing, manufacturing, delivering to the work site, and installing turbine runners, wearing rings, wicket gates, greaseless bushings, turbine guide bearings, facing plates, and shaft sleeves; sand-blasting, inspecting, testing, repairing, and coating water passages; and start-up tests.

"Thanks to new components and state-of-the-art materials, the modernized units are nearly five percent more efficient than the original turbines, resulting in a substantial power sales revenue increase coupled with substantial maintenance cost savings," said **Farshid Falaki**, Chief of Division

equipment provides better monitoring and control capabilities, with increased reliability.

A contract to refurbish pump-turbine units 2, 4, and 6 was awarded to GE Hydro in November 2001. GE Hydro is a leading turbine designer that uses the latest design and computational

fluid dynamic technologies. However, the design of a successful model to meet the contractual efficiency and cavitation requirements proved to be a technical challenge. This challenge is attributed to unique features at Oroville, including large lake level variations and the wide operating

the Metropolitan Water District of Southern California also witnessed the model testing.

Runner and wicket gates for the first unit are currently being fabricated. Disassembly of the first pump-turbine unit is set for October 1, 2004. Refurbishment of all three pump-turbine units is scheduled for completion by June 15, 2006. As with the turbines, efficiency of the new pump-turbine units will be nearly five percent higher than the existing units.

The first article about Hyatt's refurbishment project was featured in DWR People's Fall 2002 newsletter.



(Left to Right) William Watson and Sam Kuah from Metropolitan Water District of Southern California stand next to DWR staff Farshid Falaki, Soheil Loghmanpour, and Joel Richard outside of the GE Hydro Hydraulic Laboratory in Trondheim, Norway.

of Engineering's Mechanical and Electrical Engineering Branch.

As part of the modernization, VA Tech also furnished 10 digital governors to replace the outdated control system for the units at Hyatt and Thermalito Powerplants under a separate contract. Oroville Field Division staff has already completed the installation of all the new digital governors. The new

range in both pumping and generating modes.

From December 1 through December 12, 2003, Division of Engineering staff members **Farshid Falaki**, **Lonnie Essig**, and **Soheil Loghmanpour** witnessed model testing in Trondheim, Norway.

Joel Richard from the Division of Operations and Maintenance and **William Watson** and **Sam Kuah** from



(Left to Right) GE Hydro Chief of Test Henning Lysaker discusses the runner test results with Farshid Falaki of the Division of Engineering.

Part of the reverse osmosis system at PG&E's Diablo Canyon Nuclear Powerplant desalination facility. Diablo has the largest direct seawater desal plant in the Western Hemisphere, producing 450 gallons of fresh water per minute.

Photo by PG&E



DESALINATION Offers Partial Answer to California's Water Supply Question

By Don Strickland

For the first time since 1982, the United States hosted the World Filtration Congress, in New Orleans in April, underscoring a growing American interest in desalination as an alternative source of drinking water. It was the 9th World Filtration Congress (previously held in France, the United Kingdom, Belgium, Japan, and Hungary) and offered more than 300 technical sessions and an exposition of 50-75 booths.

Advances in filtration technology are of great interest to California water officials because the State's population of 35 million is expected to surpass 50 million by the year 2020.

With increasing pressure to provide water -- and rising costs of dams and environmental mitigation -- water officials are searching for water supply alternatives.

Desalination may become an increasingly attractive water source, especially along California's coast.

DWR's Involvement

Converting saltwater to fresh water became the topic of serious discussion after the State's drought of 1977. Then, in September 2002, Assembly Bill 2717 became law directing the Department of Water Resources to convene a Water Desalination Task Force. It was comprised of representatives of 27 organizations including State, local and federal agencies, water districts, environmental groups, and others.

Charles "Chuck" Keene, Chief of the Water Management Branch in DWR's Southern District, was named Executive Officer of the Task Force. DWR staff assisting the Task Force included **Fawzi Karajeh** and **Fethi Ben Jemaa** (Office of Water Use Efficiency), **Brian Smith** (San Joaquin District), and **Jennifer Wong** and **Aneta Glen** (Southern District).

The Task Force met five times in 2003, and distributed its findings and recommendations in October. A primary conclusion is that economically and environmentally acceptable

desalination should be considered as part of a balanced water supply portfolio to help meet California's existing and future water supply and environmental needs.

Cost of Desalination

"New advances in desalination technology have made the cost of desalination more competitive with other water supply options," said Chuck. "This has spurred renewed interest in desalination as a potential high quality, reliable and sustainable supply to meet a portion of California's future water demands. However, the decision to build a desalination facility should be made on a case-by-case basis given locally based water supply and reliability needs, environmental considerations, project objectives, and planning issues."

The price of removing salt from seawater has dropped by at least one-third in the last decade, although it can still cost three times as much as some other water supplies.

There are two basic ways of removing salt from water: distillation and filtering. The more popular method in the United States is filtering, or reverse osmosis. In this process, water is forced through thin plastic membranes permeated with tiny holes big enough to let water molecules pass through while holding back the larger salt particles.

Ten years ago, a typical three-foot tall tube of coiled membrane cost about \$1,250 and lasted two to three years. Now, that same tube costs about \$500, lasts about seven years and produces twice as much fresh water (a 50-million gallon per day plant uses about 18,000 such tubes).

Improved membrane technologies and more efficient plant designs have cut the approximate cost of desalting water from about \$3,000 per acre-foot to around \$900. That's still considerably more expensive than Orange County groundwater at \$107 per acre-foot and Metropolitan Water District of Southern California supplemental (imported) water at about \$450, but the dynamics are changing rapidly. Imported water (particularly from the Colorado River) is becoming much less available and there

are concerns about groundwater being seriously depleted.

Desalination Plants around the World

There are more than 11,000 desalination plants in operation around the world, according to the International Desalination Association. But most plants, especially in the United States, are relatively small ones that turn brackish water into fresh water for industry or agriculture.

The California Coastal Commission says there are about a dozen existing desalination plants on the California coast, both public and private, with an additional two dozen in the planning process.

The Marin Municipal Water District, for instance, is considering a plan to convert 5 to 10 million gallons of San Pablo Bay water into drinking water every day. This would be enough to supply about 30,000 homes annually.

The cities of Carlsbad and Huntington Beach are looking at plants that can provide 50 million gallons of desalted water per day, enough to supply 110,000 homes annually.

Cuba, has been using desalinated water for 35 years.

In Barbados, the St. Michael desalination plant supplies about 20 percent of the total water supply to the island's 264,000 residents.

About 60 percent of the world's desalination facilities are in the Middle East. In fact, more than half of the fresh water in the Middle East and Northern Africa is supplied by desalination plants. The world's largest plant is located in Saudi Arabia and produces 128 million gallons of desalted water per day. So far, only 12 percent of the world's desalination plants are in the Americas, most of them located in the Caribbean and Florida.

Proposals to build more desalination plants in California do not come without opposition from environmental groups, concerned about the possibility that the plants will endanger marine life by dumping concentrated levels of brine and bacteria back into the sea. Some environmentalists also fear that turning seawater into drinking water will encourage an even bigger population increase than what's already predicted.

Desalting ocean water is nothing new. Some countries have relied on desalination for decades, as have military vessels and cruise ships.

The U.S. Navy base at Guantanamo Bay,

"Nonetheless, conversion costs and environmental concerns may not slow the trend toward more desalination plants," said former DWR Deputy Director **Jonas Minton**, who served as Chairperson of the Task Force. "With an additional 600,000 people calling this state home each year, desalination looks more and more like one of the possible solutions to California's water supply problem...regardless of price."



*Executive Officer of the Desalination Task Force **Charles Keene**, who works in the Southern District office in Glendale, and former Deputy Director **Jonas Minton** (Right) met with the Water Desalination Task Force during their visit to the desalination plants at Marina Water District and Monterey Bay Aquarium. (Photo by Dale Kolke)*

Reclamation Board Takes its Meeting Down the Sacramento

Photos by Don Strickland

The Reclamation Board may have established a first for a State government body on February 6, when the agency with flood management responsibility along the Sacramento and San Joaquin rivers held its public meeting aboard a riverboat while cruising from Alamar Marina to Clarksburg.

The Sacramento River Corridor Planning Forum organized the on-the-water field trip so that Reclamation Board members and representatives of other city, county, State and federal agencies and organizations could view the Sacramento River floodway firsthand.

While the 65-foot "River City Queen" provided a close look at trouble spots and proposed development areas, speakers covered topics ranging from concern about residences and debris within the floodway to meeting the challenge of a managed river floodway in a growing metropolitan region.



DWR Chief of Floodplain Management **Ricardo Pineda** (center) talks with members during the tour.

Chief Engineer **Stephen Bradley** spoke for Reclamation Board staff on the trip. He explained the Board's position this way: "Although there are many visions for use of the Sacramento River such as recreational, environmental, or economic development, the safety of the public from flooding along the river is the primary consideration of The Reclamation Board."

Later he commented on the boat tour:

"We had a great experience today... we've seen a lot of things...erosion sites, marinas, potential development sites and we've been able to discuss potential conflicts and opportunities in a very positive way."

Buer went on to say that by taking a boat tour, one senses the power of the river, which is hard to do from a bridge passing overhead. "You can see the erosive power of the current working on the banks," he said. "It's kind of awe-inspiring and even though the flow rate is only 33,000 cubic feet per second today (about one-third the design flow of 107,000 cfs) you still get

DWR's Division of Flood Management Chief **Stein Buer** spoke about the Sacramento Bypass and weir facilities.



The upper deck passengers on the river tour included Reclamation Board President **Betsy Marchand** (in the aisle seat of the third row).

the feeling that this is a living river... and it's a wonderful asset for the city."

Reclamation Board President **Betsy Marchand** said she thought the outing was exciting...and informative. "I really enjoyed talking with so many people interested in preserving the Sacramento River and in favor of doing good planning for the future. I think this is an opportune time before the whole Sacramento River is changed. We are so pleased with the cooperation from all the agencies. DWR has been extremely cooperative and helpful. Stein and others who spoke today really helped put the whole project in perspective. All the people came here today about a real project...something that's important to our area and to future generations."

*Reclamation Board Chief Engineer **Steve Bradley** speaks about development along the Sacramento River.*



When asked if she ever conducted a Reclamation Board meeting afloat before, Betsy had this response: "No, this is the first time, but I hope it's not the last because you really get a

good perspective of what we're talking about. It's a different view and it's a view that we need. This is a lot better than a PowerPoint, I'll tell you that."

Emergency Preparedness Seminar

On December 8, 2003, The Resources Agency sponsored a seminar on emergency preparedness for employees in the Resources and Bonderson buildings. The seminar was a follow-up to the seminar on Emergency Preparedness for Employees with Disabilities, which was held in

October 2003 as part of Disability Awareness Month.

Panel members consisting of representatives of the California Highway Patrol and Sacramento City Fire Department, along with Resources Building Manager **Greek Harvey** and Bonderson Building Manager

Marcell Lewis, discussed emergency evacuation procedures with an emphasis on emergency preparedness for individuals with disabilities. The panel also responded to questions and concerns from an audience that included emergency team members, facilities staff, and health and safety officers.

The event was coordinated by the Department of Water Resources' Equal Opportunity and Management Investigations Office.



*At the Preparedness Seminar, speakers (Left to Right) included Resources Building Manager **Greek Harvey**, Bonderson Building Manager **Marcell Lewis**, CHP Officer **David Brunell**, CHP Staff Services Analyst **Kelly Williams**, and Sacramento Fire Department Fire Prevention Officer **Rosemary Robles**.*

Photo by Norm Hughes

A Dime A Day

During the 2003 California State Employees Charitable Campaign, DWR employees raised \$155,900, for nonprofit organizations, such as the Sacramento Food Bank Services, Stanford Home for Children, and the American Red Cross. DWR received a Gold Award for per capita donations to the CSECC.

"DWR's 2003 CSEC Campaign, also known at DWR as 'A Dime a Day' campaign, was a success," said Ernie Tapia, DWR's CSECC Department Chairperson. "Although DWR has lost many positions, we still increased our participation rate to 50 percent and per capita contributions to \$85. A special thanks to everyone who contributed

and made this such a successful campaign."

The Divisions and Offices donating more than \$100 per capita included Executive, Office of Water Education, Bay-Delta Office, Safety of Dams, Planning and Local Assistance, the State Water Project Analysis Office, and DPLA's San Joaquin District.

In March, DWR employees attended the CSECC Appreciation Ceremony, where employees and divisions received awards for their contributions.



(Left to Right) CSECC Representative **Ron Hermann**, DWR's CSECC Department Chair **Ernie Tapia**, DWR Director **Lester Snow**, and DWR Acting Chief Deputy Director **Steve Verigin** attended the CSECC Appreciation Ceremony.

(Left to Right) DWR's Division Vice Chairs, who attended the CSECC Appreciation Ceremony included (Sitting) **Rebecca Boyer** for Executive, **Gholam Shakouri** for DPLA's San Joaquin District, **Lynn Stephens** for the Office of the Chief Counsel, **Linda Ingalls** for Technology Services. (Standing) DWR Director **Lester Snow**, **Mike Torabian** for the State Water Project Analysis Office, **Ray Welch** for Flood Management, **Chris Demes** for CERS, and **Baryohay Davidoff** of Office of Water Use Efficiency.



Department of Water Resources
California State Employees Charitable Campaign 2003 Division Results

	Total Number of Employees	Dollars Contributed	Employees Participated	Employee% Participation	Dollars Per Capita	Awards Per Capita
Executive Division	46	\$5,784	28	61%	\$126	Platinum
Division of Fiscal Services	96	\$7,918	47	49%	\$82	Gold
Division of Environmental Services	109	\$6,326	43	39%	\$58	Bronze
Office of Water Education	42	\$4,616	28	67%	\$110	Platinum
Division of Technology Services	124	\$8,842	53	43%	\$71	Silver
Division of Management Services	158	\$8,572	64	41%	\$54	Bronze
Office Of The Chief Counsel	29	\$2,172	16	55%	\$75	Silver
Calif. Energy Resources Scheduling	50	\$3,798	26	52%	\$76	Silver
Bay Delta Office	76	\$10,588	48	63%	\$139	Platinum
Division of Flood Management	122	\$10,780	65	53%	\$88	Gold
Division of Land and Right of Way	66	\$3,861	29	44%	\$59	Bronze
Office Of Water Use Efficiency	21	\$1,586	15	71%	\$76	Silver
Division of Safety of Dams	60	\$7,794	39	65%	\$130	Platinum
Division of Planning & Local Assistance (DPLA)	109	\$15,430	65	60%	\$142	Platinum
State Water Project Analysis Office	90	\$10,125	58	64%	\$113	Platinum
Division of Operations & Maintenance	113	\$8,760	44	39%	\$78	Silver
SWP Operations Control Office	63	\$3,968	24	38%	\$63	Bronze
Division of Engineering	192	\$14,196	86	45%	\$74	Silver
DPLA's Central District	46	\$1,800	22	48%	\$39	Not Met
Sacramento Region (Sub Total)	1612	\$136,916	800	50%	\$85	
DPLA's San Joaquin District	52	\$12,672	30	58%	\$244	Platinum
DPLA's Southern District	37	\$2,580	12	32%	\$70	Silver
DPLA's Northern District	76	\$3,741	26	34%	\$49	Not Met
Overall Department Totals	1777	\$155,909	878	49%	\$88	

Department Per Capita Award: Gold

Department Participation Award: Silver

DWR Blood Drives

Donating blood to DWR's Blood Drive could help save someone's life. DWR's last three Blood Drives in 2004 are scheduled in the Resources Building's Auditorium for July 7, September 9 and November 9.

Donors must be in general good health, weigh at least 110 pounds, and be at least 17 years old (16 years with written parental/guardian permission).

For more information about donating blood, visit the Blood Source's Web site at www.bloodsource.org or email questions to DWR's Blood Drive Coordinator Lynne Bitnoff at blooddrive@water.ca.gov

If you would like to donate blood, visit DWR's Web site at <http://donateblood.water.ca.gov/cgi-bin/donor> or email Lynne.



*For more than 14 years, **Bert Pierroz** has worked on DWR electronic and information security issues. In recent years, he has had special concern for the security of mobile devices.*

"Since September 2001, DWR has taken proactive measures to enhance both its physical and cyber security programs," said Sonny. "Bert plays a key leadership role in safeguarding DWR's cyber information systems and activities. He's also an effective IT link with our security and emergency planning partners in other agencies."

Bert acts as Incident Commander for the Computer Security Incident Response Team that can be activated in emergencies, and he also provides expert input on business resumption planning for IT. Bert serves as Chairperson of the Department's Network Security Task Force.

Information Security Officer Helps DWR Thwart Computer Viruses, Hackers

By Pete Weisser

Photos by Paul Hames

As a pioneer among State agencies in electronic communications, it's fitting that DWR has its own cyber security patrol, riding the Internet range and protecting the Department against e-mail rustlers and hustlers.

Data Processing Manager III **Bert Pierroz**, who is a veteran Information Technology analyst, supervisor and educator, is the IT pro riding security shotgun to safeguard DWR's working population of computer, e-mail and laptop users.

On September 1, 2001- just days prior to the infamous terrorist attacks on the Pentagon and in New York - Bert was appointed DWR's first full-time Information Security Officer, working closely with the Department's Emergency Preparedness Manager and reporting directly to the Chief Deputy Director.

Bert provides strategic direction and guidance for the DWR information security program. This involves providing IT security advice to top management, as well as conducting risk analyses to identify assets, vulnerabilities and the adequacy of information systems safeguards.

Security Input for Management

"Bert's expert input on IT security is a valuable resource to DWR policy makers and top managers in strategic planning and assuring protection for our communications from viruses and other disruptions," said **Steve Verigin**, Acting Chief Deputy Director.

Sonny Fong, DWR's Emergency Preparedness Manager, credits Bert with helping DWR upgrade its IT security in recent years.

He works very closely with **Ben Williams**, Chief, Division of Technology Services, and the DTS management and technical staff. Bert credits DTS technical staff and other members of the Network Security Task Force for creating and maintaining the Department's numerous security systems.

DWR recognized Bert's outstanding performance in 2003 with a Management Excellence Award. The award citation praised Bert for taking the initiative to "design and implement a comprehensive, cohesive information security program," calling him "the unquestioned leader within DWR with regard to information security matters."

Bert brings a decade of top-level information technology security expertise to his cyber security job, along with career experience as an educator, trainer and information systems supervisor and analyst. He became acting Information Security Officer starting in November 2000. Since 1992, he's been active in IT security planning and management, first as a Staff Information System Analyst (Supervisor) and later as a Senior ISA.

"I've actually been working on a wide variety of electronic and information

security issues within DWR since 1990," said Bert. This covered a period of great technological advances in computer use and burgeoning e-mail traffic within the Department.

With firewalls, layered protection, security patches and vigilant supervision, DWR has developed and implemented sound in-depth security safeguards.

Safety Tips for Home Computers

Consequently, much of Bert's emphasis now is on educating computer users on the need for individual security and vigilance, especially to safeguard vulnerable points of entry for viruses and hackers. This includes home computer use, as well as work computers, and the vital points of interface between home and work systems.

Early in 2004, Bert issued an e-mail message on computer security at home, crammed with tips on how to use firewalls, security patches and anti-virus software for protection. He also gives referrals for more information.

"Mobile laptops and home systems don't have the security benefits that our (DWR) network provides," he said.

Areas of special concern are laptop reconnects, Internet Explorer and wireless networking. "Keep your home computer anti-virus software current, your operating systems and applications patched, and use a personal firewall," said Bert. He also recommends the following:

- Don't open any e-mail attachment that you haven't requested or weren't expecting.

- Don't visit any Web sites that aren't well known and 'content appropriate.'

- If you use a DWR laptop in the field for extended periods, you need to check with your local LAN administrator before reconnecting to DWR's internal network to ensure that your anti-virus software is up-to-date.

While much of Bert's focus in an era

of terrorism and spam is on system protection against villainy from outside the Department and risks imported from home systems, he also enforces the DWR policies on proper employee use of computers and IT.

Virus Alerts

Bert is well known to grateful computer users and e-mailers throughout DWR for his speedy, informative alerts when viruses threaten the security and usefulness of the Information Highway. Such viruses have the ability to quickly spread through and contaminate e-mail systems. His alerts describe the virus, providing best available information and advice on how to thwart or minimize exposure and risk from such unwanted intrusions into the DWR communications system.

Career Profile

A longtime DWR employee, Bert has worked for the Department continuously since 1988. A credentialed teacher and veteran Training Officer, he moved into the Information Technology field in the early 1990s.

Bert started with the Department in the 1970s in the Training Office. He left to work as a director of education and organization development at Sutter Health System for four years in the early 1980s. From 1987 to 1988, he worked as a Training Officer at the California State Lottery.

Bert earned a Master in Public Administration degree at California State University, Sacramento, in 1979. A 1968 graduate of UC Davis, Bert majored in Psychology and minored in Mathematics.

Bert and his wife have two sons. A



Bert Pierroz, a UC Davis graduate, enjoys ending his workday with a bicycle ride home.

high-tech professional, Bert commutes to work on a low-tech vehicle, a bicycle, as befits a Davis alumnus.

DWR Attorney Susan Weber Enjoys Singing In Sacramento Choral Group

By Pete Weisser

Photo by Steve Payer

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or most of us, musical recreation means singing in the shower.

For Staff Counsel **Susan Weber**, it's scaling the challenge of classical orchestral chorus music, performing as a member of the Sacramento Choral Society and Orchestra.

Now in its eighth season, this prestigious musical group--known as the SCSO-- performs great choral works written for a full orchestra.

Under the direction of Conductor Don Kendrick, the 200-voice chorus and 50-piece orchestra present four concerts a year, mostly in the Sacramento Community Center, but also in the Memorial Auditorium and at the new Mondavi Center at UC Davis.

Susan -- a mother of 13-year-old twins and an Attorney at DWR since 1979 -- joined the chorus in 2002, seeking "something fun to do that was completely different from work and parenting."

"My kids were involved in musical theater at school and were having such

a good time that singing seemed like a good possibility," said Susan.

She contacted the chorus, auditioned and won acceptance as an Alto.

Raised in a musical family, Susan brought a versatile musical background to her choral avocation.

Her mother, an educator, taught piano, loved opera and spent a summer traveling to Mozart festivals in Europe. Her father's family, part Cornish, had a singing tradition. As a youth, Susan

sang in church choirs. In addition to vocalizing, she played musical instruments, including piano, violin and recorder.

As a chorus singer, she blends her vocal talents with those of a large, diverse group of volunteer singers. About 200 singers of varying skill levels and many walks of life compose the Choral Society. Members include computer experts, horse trainers, CEOs, doctors, housewives and State employees. The group was formed in 1996 to



Susan Weber of the Office of the Chief Counsel joined the Sacramento Choral Society and Orchestra as an Alto more than two years ago.

continue classical choral performing in Sacramento after the Sacramento Symphony Orchestra disbanded.

In recent years, Conductor Kendrick has forged and molded the SCSO into a stellar singing unit with a challenging, varied repertoire, including masses, Broadway music, Verdi's Requiem, and the English classic compositions of Ralph Vaughan Williams, Sir Edward Elgar and William Walton.

"We practice together once a week at CSUS for two and a half hours and practice on our own at home," said Susan.

To accompany the chorus, the organization hires and rehearses with a 50-piece professional orchestra.

SCSO has been profiled in such publications as Sacramento's Guide to the Arts, Sacramento Magazine, Sacramento Gazette and the Sacramento Bee. The group

has finished its most recent seven consecutive seasons in the black and last year performed at Carnegie Hall.

Forty members of the group sang at inaugural ceremonies last November for Governor Arnold Schwarzenegger. (For security and space reasons, the entire choral group of 200 could not be accommodated, so a smaller group was selected.)

"Those who participated really enjoyed the experience," said Susan.

The chorus climaxed calendar 2003 with Christmas holiday concerts on December 13 in Memorial Auditorium and on December 14 at the Mondavi Center.

In 2004, in the Community Center Theater, the chorus presented a March 6 concert entitled Music of Paradise. In May, it will present two performances of a program entitled European Horizons—on May 1 at the Community Center Theater and on May 23 at the

Mondavi Center at UC Davis.

The SCSO also plans overseas concerts in Budapest, Prague and Munich, though scheduling conflicts prohibit Susan from making the trip.

"I like a lot of things about singing with the SCSO," said Susan. "A chance to learn and sing wonderful music like 'Lux Aeterna' (Eternal Light) by Morten Lauridsen (a USC music professor considered America's most influential choral music composer); the opportunity to perform with other singers and with a professional orchestra; the camaraderie of the group as we work to master the music."

Choral music is enjoying an era of great popularity in the United States. In a November 2003 profile of Lauridsen, the Wall Street Journal reported that more than 28 million Americans now sing in about 250,000 choirs, most of them church groups.



Sacramento Choral Society and Orchestra's performance at a concert in 2003. (SCSO photo)

Dream Your Dreams

Photo by
Norm Hughes

Faye Portman of DWR's Division of Planning and Local Assistance recently became a published writer. Her poem titled "Dreaming My Dreams" is published in the Fall 2003 edition of "The Colors of Life," a poetry book published by the International Library of Poetry.

Upon the advice of a co-worker, Faye submitted her poem in a poetry contest. Her poem was selected as a semi-finalist, subsequently published, and can be viewed on the Internet at Poetry.com.

"My writing is inspired by my family and my friends," said Faye. "It includes the loss of loved ones, but generally pertains to all aspects of life based on true life experiences. Whenever I come across an emotion that is hard to cope with, I try to incorporate some inspiration to give the situation some light."

Faye began her career in State government in 1971 with the Department of Justice. She joined the Department of General Services in 1977. While working for DGS she was assigned to the California Arts Council as a Payments Specialist to approve and pay artists' grants. At the

Poet **Faye Portman** shows the "Colors of Life" poetry book, which contains her poem.

end of her seven years with DGS, she enrolled in a song writing class at Sacramento City College and began freelance writing. During this time, she wrote "Dreaming My Dreams," along with many other poems for her family and friends.

"Writing is one way that I can share my feelings with others without showing the true emotion that I once felt," said Faye. "'Dreaming My Dreams' is about love, losing love, and cherishing the memory of love."

Before joining DWR in 1999, Faye worked as a Paralegal/Legal Assistant in the private sector.

Her first two years with DPLA were in the Water Quality Assessment Branch, where she contributed to the completion of 12 DWR publications for the Site Assessment and the Municipal Water Quality units. She then accepted a one-year Training



and Development assignment with the Office of the Chief Counsel, where she held the position of Secretary to Assistant Chief Counsel David B. Anderson as well as backup Secretary for Chief Counsels and support staff for DWR's staff attorneys. After completion of her T&D assignment, she returned to DPLA's Administration and Program Control Office.

Faye looks forward to continuing her career with DWR and freelance writing. She has already received a letter from another publisher interested in publishing "Dreaming My Dreams" throughout the United Kingdom.

Management Development Program Graduates of 2003 roll with the Changes

On Tuesday, October 10, 2003, 31 participants graduated from the 2003 DWR Management Development Program (MDP). The program, which began on January 30, led the participants on a year-long journey. The group learned a great deal about how DWR works and how the various divisions and offices work together to achieve the Department's vision, mission and goals. They also

learned about themselves and their fellow students. By the end of the program, many had made new friends. According to one graduate, they got to know people that they never would have had the chance to meet if they hadn't been in this program.

On the final day of the program, when participants are required to give a presentation to an audience of Deputy Directors, the graduates were thrown a

bit of a curve ball. Due to emergency budget meetings with the Director, none of the Deputies were able to attend the final project presentations. However, several Division Chiefs were able to stay and give the students an audience, although somewhat earlier than originally scheduled. The MDP participants rolled smoothly with the challenges of the day and the presentations were given without a hitch.



Management Development Program Graduates(Left to Right) **Standing:** Robert Floyd, Soheil Loghmanpour, Bob Niblack, Khalil Jafarnejad, Mike Mirmazaheri, Mary Miller, Todd O'Briant, Aspet Ordoubegian, Balencia Dozier, Joel Ledesma, I-Ming Cheng, Patty Beltran, Lisa Toms, Beverly Smith, Mike Neff, Russ Eckman, Lorry Divine, Arthur Hinojosa, Paula Styler, Tito Cervantes, Karen Hull, Robert Fill, Masood Mesbah, Jim Hartline, Ben Williams (Program Mentor), Ken Carroll. **Sitting:** Earl Nelson, Paula Landis (Team Mentor), Lori Brown, Lynne Baker, Alison Raymer (Team Mentor), Gurdip Rehal, Miguel DeAnda.

2003 Trainers Of The Year

DWR's Employee Career Development Committee (ECDC) devoted part of its December 11 meeting to recognizing 11 DWR employees for their contribution to the Department's training program.

ECDC recognized two employees with the Trainer of the Year Award: **James P. Pearson** of Mobile Equipment and **Troy Phillips** of Operations and Maintenance's San Joaquin Field Division. Presenting these awards was **Dwight Russell**, ECDC Vice-Chair and Chief of the DPLA Northern District. Troy and James were recognized for

their many hours spent in developing Mobile Equipment classes.

The award for Training Coordinator of the Year was jointly awarded to **Wendy Pope** and **Barbara Moore** from CERS. Dwight Russell also presented these awards, which were given in appreciation of Barbara and Wendy's extraordinary efforts in coordinating the Ethics Orientation for State Officials training for the many CERS employees and consultants.

The Training Unit of the Year award was presented to the Equal Employment

Opportunity and Management Investigations Office (EEOMI) for its Sexual Harassment Prevention classes. **Russell Kiri**, Acting Training Office Chief, presented the award to **Angel Melendez**, **Chris Calhoun**, **Marla Burnett**, **Julie Van Der Volgen**, **Rosemary Thomas** and **Tina Johnson**. Not pictured is former EEOMI Office Chief, **Jacquelyn Griffin**.

The Training Office would also like to recognize the many volunteer trainers who share their time and knowledge to help keep DWR's excellent training programs running smoothly.

Linda Ackley
Derrick Adachi
Bruce Agee
Judy Alexander
Dave Anderson
Lynne Baker
Rene Bayardo
Mike Bingaman
Angela Bonfiglio-Allen
Cynthia Brauer
Rick Burnett
Marla Burnett
Susie Cano-Guzman
Julie Carrasco-Minton
Bill Collins
Cathy Crothers
Linda Currie
Sharmane Daniels
Kimberly Deene
Cosme Diaz
Carol DiGiorgio
Jennifer Dong
Robert Duffey
Sonny Eboigbe
Janice Fetler

Sid Fong
Myra Galvez
James Gleim
Maria Gomez
David Gonzalez
Linda Goodman
Germaine Gordon
Jacquelyn Griffin
Pam Hart
Jon Hickey
Bob Highhill
Jennifer Hogan
Robert House
Tina Johnson
Kristie Joyce
Dave Kearney
Lenore Keen
Colleen Kirtlan
Kathie Kishaba
Karina Kugel
Donna Lane Mills
Richard Le
Shannon Lee
Bill Mahon
Lorraine Marsh

Jim Martin
Ray Martin
Chris Mattos
Angel Melendez
Michael Miller
Scott Morgan
Chanda Nelson
Murage Ngatia
Brian Niski
Janis Offerman
Kim Oliphint
James Pearson
Stephanie Pettit
Herman Phillips
Bert Pierroz
Troy Phillips
Jaclyn Pimental
Ana Pina
Andy Pollak
Jay Punia
Elvira Ramirez
Alison Raymer
Greg Rowsey
Phil Sanchez
Pat Separovich

Stephanie Servis
Deanna Sesso
John Shelton
Gerald Snow
Mark Soto
Harry Spanglet
Mark Storz
Ward Tabor
Ernie Tapia
Clay Thomas
Ron Thomas
Rosemary Thomas
Deborah True
Ann Valdez
Julie Van Der Volgen
Julie Vance
Chris Verdin
James Veres
Peter Villanueva
John Vrymoed
Glenn Ward
Richard Willoughby
Jean Witzman
Ron Wright



*Training Coordinator
of the Year*
Barbara Moore



*Training Coordinator
of the Year*
Wendy Pope



Trainer of the Year
James Pearson
Mobile Equipment



Trainer of the Year
Troy Phillips
*Operations and Maintenance's
San Joaquin Field Division*



Training Unit of the Year
*(Left to Right) Standing: Acting Train-
ing Office Chief Russell Kiriou, Angel
Melendez, Chris Calhoun, Marla
Burnett. Sitting: Julie Van Der
Volgen, Rosemary Thomas, Tina
Johnson.*

Retirement



Larry Blood

DWR Hydroelectric Plant Operator **Larry Blood** worked in Oroville for more than 23 years. While working at Oroville Dam, he helped operate and maintain the Thermalito and Hyatt powerplants and facilities.

"This has been an exciting job here, especially working through the 1986 and 1997

floods," said Larry, who worked for Oroville Field Division in the Operations Branch's Plant Operations Section before retiring in February.

Always a knowledgeable worker, he was among the group that wrote the Thermalito Operations Manual, titled "OP 103R." He made a career of making sure the equipment in the

powerplants functioned smoothly.

With his retirement, he intends to remodel his home in Paradise, sell it, then move to Houston with his wife. They are planning to travel and do some hunting and walleye fishing in Michigan in the summer. His other interests include woodworking and building antique-looking clocks to sell.



Vicki Reedy

Chief of the Training Office and Ombudsperson **Vicki Reedy** retired after working 37 years for DWR.

"It was a marvelous opportunity to be the Chief of DWR's Training Office," said Vicki. "In addition to increasing classes by double, it was satisfying to assist Department employees in learning new skills and abilities."

During Vicki's DWR career, she worked for five different Directors while with Management Services, Land and Right of Way, the Public Information Office (now the Office of Water Education), the California Water Commission, the Executive Office, the Resources Evaluation Office, and Planning.

As DWR's Ombudsperson, Vicki helped employees find successful resolutions to their concerns.

Vicki's career has also taken her to other agencies, such as the Department of Education and the Water Resources Control Board.

In 1995, Vicki was awarded the Management Excellence Award. In 1992, she also received a Unit Citation as part of the Refurbishing Task Force.

Vicki, who retired in February, plans to spend more time with her family.



Pat Separovich

In December, Executive Assistant **Pat Separovich** wrapped up 25 years of State service, which included 19 years at DWR.

Beginning as a Permanent Intermittent Office Assistant in the Division of Design and Construction (now Division of Engineering), Pat worked in different sections of the Division until 1999. She transferred to the State

Water Project Analysis Office, where she worked for three years before moving to the Executive Division in April 2003 as former Deputy Director Jonas Minton's Executive Assistant.

Rather than looking at retirement as an end, Pat sees it as the beginning of new things and a different lifestyle. "One can do whatever she wants, whenever she wants, and what a great feeling that is," said Pat.

Retirement plans include travel with her husband, spending more time with her three grandsons, gardening, volunteering in the community, meeting friends for lunch, shopping as much as possible, and enjoying life to the fullest.

"I feel fortunate that I had the opportunity to work at DWR," said Pat. "It was a great place to work and I enjoyed every one of my jobs and bosses."



Stephen P. Hayes

"I have been privileged to lead a major program for the Department," said Bay-Delta Monitoring and Analysis Section Chief **Stephen P. Hayes** as he ended a 26 year career in State service in December.

After six years as a naval intelligence officer during the Vietnam era and graduate school at University of the Pacific and UC Davis, Hayes went to work for the State Water Resources Control Board, spending much of his 10 years there coordinating the "state mussel watch" program. "We collected relatively clean mussels from Trinidad Head, north of Eureka," said Stephen, "purged them further at Moss Landing, and then placed them in coastal water outfalls up and down the state. We would leave them in place for a few months, collect them again, and check for pollutants."

In October 1987, Stephen signed on as Bay-Delta section chief where he led his staff in carrying out water quality monitoring mandates of Water Rights Decisions 1485 and 1641. He also headed the team that carried out the overhaul, re-powering, and modification of the 56-foot monitoring vessel San Carlos as she was upgraded to a multipurpose research craft.

"I am especially proud of my team's 'can do' spirit," said Stephen as he commended his staff for never missing a single scheduled sampling run despite numerous obstacles such as adverse winter

weather, floods, equipment failure, and unanticipated staff shortages.

"For one person to do his job well, " said Stephen, "a lot of others must do theirs well also. I have been blessed with a great staff. I couldn't have done it alone."

Stephen said his retirement plans include spending more quality time with his wife and children, becoming more involved with community and church activities, and ultimately a visit to the Midwest where his wife is from, and back to Cape Cod where he was raised.



Tony Perez

When Utility Craftworker Supervisor **Tony Perez** joined DWR in 1965, he worked on the California Aqueduct during its construction.

"I remember watching

when Governor Reagan with Director Gianelli pushed the button to start up Edmonston Pumping Plant," said Tony.

During Tony's 38 years with DWR, he has worked for Design and Construction, San Joaquin Field Division, and lastly Delta Field Division. With Design and Construction in Taft, he worked on the pre-consolidation project for Tupman, Maricopa and Bakersfield. After San Joaquin Field Division Operations and Maintenance was created, Tony worked as a Maintenance Worker I, II and III for the Lost Hills Subcenter, where he maintained the California Aqueduct from Kettleman

City to Edmonston Pumping Plant. His assignments included repairs, herbicide and erosion control along the California Aqueduct.

In 1982, he was promoted to Utility Crafts Supervisor at Delta Field Division in Byron. He supervised the maintenance and repairs at Del Valle Pumping Plant, South Bay Pumping Plant, California Aqueduct and Banks Pumping Plant. He has also supervised at the Delta O&M Center, Skinner Fish Facility, and Bottlerock Powerplant. Tony was a member of the Flood Fighting Methods Training Team.

"I was hired at Delta Pumping Plant for the refurbishment of the more than 32 radial

gates on the California Aqueduct from Byron to Newman," said Tony.

To complete this assignment, Tony and his staff removed the radial gates, took them apart, sandblasted them, and applied coating.

"I enjoyed coordinating this refurbishment job with all of the crafts, which included operators, electricians, control systems technicians, electrical-mechanical technicians, and plant maintenance mechanics," said Tony.

With his retirement in December, Tony now plans more time for golfing, fishing, and traveling throughout the United States.

Twenty-five Years of Service



Linda Dutra
Technology Services
Staff Programmer
February 2004



George Gongora
San Luis Field Division
HEP* Electrician II
March 2004



Les Harder
Engineering
Division Chief
February 2004



James Schindler
Engineering
Supervising Land Agent
February 2004



Gabino Velazquez
Southern Field Division
HEP* Mechanical Supervisor
February 2004



Francene Weatherspoon
Executive
Senior Information Systems
Analyst (Specialist)
November 2002

New Hires

Nathaniel Amey
San Joaquin Field Division
HEP* Electrician Apprentice

John Buck
Southern Field Division
HEP* Mechanic I

Donald Cozart
San Joaquin Field Division
HEP* Mechanic I

David Fernandez Jr.
Delta Field Division
Utility Craftworker

Gregory Hansen
Delta Field Division
HEP* Operator

Paul Lambrecht
Delta Field Division
HEP* Operator

Douglas Munis
San Joaquin Field Division
HEP* Mechanic I

James Patteson
Delta Field Division
Utility Craftworker

David Roberts
Delta Field Division
HEP* Operator

Luther Woolf
San Joaquin Field Division
HEP* Mechanic I

** Hydroelectric Plant*

Promotions

Richard Alcalá
Southern Field Division
HEP* Operator

Karl Blackburn
Southern Field Division
Senior HEP* Operator

Michael Brummer
San Joaquin Field Division
HEP* Mechanic II

Carlos Cabral
San Joaquin Field Division
HEP* Electrician I

David Canchola
Delta Field Division
HEP* Electrician Supervisor

Elaine Chan
Environmental Services
Laboratory Technician-
Chemical Analysis

Tamara Compton
San Joaquin Field Division
Senior HEP* Operator

John Crouch
Delta Field Division
Utility Craftworker (Supv.)

Terry Dennis
Operations & Maintenance
Chief Water & Power
Dispatcher

Diana Gillis
Delta Field Division
HEP* Mechanic II

Laurence Giuntoli
Delta Field Division
HEP* Mechanic I

James Hartline
Delta Field Division
HEP* Maintenance Supt.

Chad Imeson
Operations & Maintenance
Water & Power Dispatcher

Curtis Lannom
San Joaquin Field Division
Senior HEP* Operator

Robert Madrid
Southern Field Division
HEP* Mechanic II

Donald Price
San Luis Field Division
HEP* Mechanic II

Mark Richert
San Joaquin Field Division
HEP* Electrician (Supv.)

Marilyn Salsa
San Luis Field Division
Water Resources Technician II

Harold Scribner
Technology Services
Assoc. Info. Systems Analyst

Joseph Strain
Oroville Field Division
HEP* Maintenance Supt.

Marilyn Toomey
Environmental Services
Laboratory Technician-
Chemical Analysis

Shumphurt Witherspoon
Southern Field Division
HEP* Operator Apprentice

Ronald Wolfe
San Joaquin Field Division
Assistant Utility Craftworker

** Hydroelectric Plant*

Retirement

Dee Alstatt
Southern Field Division
Water Res. Tech. II

Marjorie Bergeron
Safety of Dams
Administrative Officer II

Diana Brandon
Management Services
Records Management
Analyst I

Andres Castaneda
San Joaquin Field Division
Utility Craftworker

Gary Chitwood
San Joaquin Field Division
Building Maintenance
Worker

Robert Christie
Engineering
Construction Supervisor III

Howard Cummins
Delta Field Division
Utility Craftworker

Milagros Dery
Southern District
Staff Services Analyst

John Elko
Northern District
Water Resources
Engineering Assoc.

Guillermo Fabela Jr.
Delta Field Division
Electrical-Mechanical
Testing Technician II

Sherrie Freitag
Engineering
Construction Management
Supervisor

Ralph Hamby
Oroville Field Division
Maintenance Mechanic

Roderich Knehans
Delta Field Division
HEP *Operator

Ronald Lee
San Joaquin Field Division
HEP* Mechanic II

Theo Lucio
Management Services
Microfilm Technician I

Jonas Minton
Deputy Director

Stanley Neilson
San Luis Field Division
Transportation Surveyor

Dawn Soza
Delta Field Division
HEP* Operator

Don Takemoto
San Joaquin District
Water Res. Tech. II

James Wales
Operations & Maintenance
Water & Power Dispatcher

George Wheeler
Operations & Maintenance
Staff Info. Systems Analyst

Birth Announcement:

Congratulations to DWR Parent: Mel Hicks, Senior Accounting Officer in Fiscal Services, has a daughter named Olivia Marie, who was born September 22 weighing 6 pounds, 13 ounces, and 20 inches long.

DWR MISSION

Statement

To manage the water resources
of California in cooperation
with other agencies,
to benefit the State's people,
and to protect, restore,
and enhance the natural
and human environments.

S T A T E O F C A L I F O R N I A • D E P A R T M E N T O F W A T E R R E S O U R C E S

DWR NEWS/People
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